

**PATENT**

**1166/SYMBP167US**

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Date: July 24, 2006

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re patent application of:

Appellant(s): Alistair Hamilton, *et al.*

Examiner: Alexis Asiedua Boateng

Serial No: 10/733,221

Art Unit: 2838

Filing Date: December 11, 2003

Title: OPPORTUNISTIC POWER SUPPLY CHARGE SYSTEM FOR PORTABLE  
UNIT

**Mail Stop Appeal Brief – Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450**

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**APPEAL BRIEF**

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Dear Sir:

Appellants' representative submits this brief in connection with an appeal of the above-identified patent application. If any additional fees are due and/or are not covered by the credit card, the Commissioner is authorized to charge such fees to Deposit Account No. 50-1063 [SYMBP167US].

**I. Real Party in Interest (37 C.F.R. §41.37(c)(1)(i))**

The real party in interest in the present appeal is Symbol Technologies, Inc., the assignee of the present application.

**II. Related Appeals and Interferences (37 C.F.R. §41.37(c)(1)(ii))**

Appellants, appellants' legal representative, and/or the assignee of the present application are not aware of any appeals or interferences which will directly affect, or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**III. Status of Claims (37 C.F.R. §41.37(c)(1)(iii))**

Claims 1-4, 6, 8-23, 25-29 are pending in the application. The rejection of claims 1-4, 6, 8-23, 25-29 is being appealed.

**IV. Status of Amendments (37 C.F.R. §41.37(c)(1)(iv))**

Claim amendments had been made and entered after the Final Office Action.

**V. Summary of Claimed Subject Matter (37 C.F.R. §41.37(c)(1)(v))****A. Independent Claim 1**

Independent claim 1 and its corresponding dependent claims relate to a portable computing device having a component that receives an electro-magnetic flux generated from an external source. A charging component generates a charging current from the flux, and charges a rechargeable power supply. A controller determines a first charging time for the portable computing device and allocates a second charging time to the portable computing device (*See, e.g.*, Figs. 2 and 3; pg. 9, lns. 21-30).

**B. Independent Claim 9**

Independent claim 9 and its corresponding dependent claims relate to a method of charging a portable unit including allocating a charge time to charge a rechargeable power supply of the portable unit (*See, e.g.*, Figs. 4, element 40; pg. 11, lns. 20-25). At

least one primary induction assembly is provided, with a primary winding configured to create a magnetic flux (*See, e.g.*, Fig. 2, element 22; pg. 9, lns 23-25). A second pick up induction assembly is provided, coupled to a rechargeable power supply of the portable unit, the magnetic flux extendable in to the second pick up induction assembly (*See, e.g.*, Fig. 2, element 24; pg. 9, ln. 30 to pg. 10, ln. 6). The power supply is opportunistically recharged based at least in part on the charge time *via* a current created in the second induction assembly from the magnetic flux (*See, e.g.*, pg. 17, lns. 19-30).

**C. Independent Claim 19**

Independent claim 19 and its corresponding dependent claims relate to a charging system for a portable unit, including a controller that determines a charging time for a rechargeable power source of the portable unit and allocates a partial charge time to the rechargeable power source (*See, e.g.*, Fig. 4, element 40; pg. 11, lns. 20-25). A primary induction assembly with a primary coil is coupled to a primary power source (*See, e.g.*, Fig. 2, element 22; pg. 9, lns. 23-25). A secondary induction assembly with a secondary coil is coupled to a rechargeable power source of the portable unit (*See, e.g.*, Fig. 2, element 24; pg. 9, ln. 30 to pg. 10, ln. 6). The magnetic flux of the first primary induction assembly is extendable to the secondary induction assembly so as to provide the rechargeable power source a charging current that is inductively created *via* the magnetic flux during an opportunistic charging of the portable unit (*See, e.g.*, pg. 3, lns. 25-29).

**D. Independent Claim 29**

Independent claim 29 relates to a charger system having means for allocating disparate charge times to at least two portable units and means for creating a magnetic flux (*See, e.g.*, Fig. 2, element 22; pg. 9, lns. 23-25). Means are also provided for receiving a magnetic flux, the receiving means operatively connected to a rechargeable power source of each of the at least two portable unit units so as to create an electric current during an opportunistic charge of the at least two portable unit units (*See, e.g.*, Fig. 2, element 24; pg. 9, ln. 30 to pg. 10, ln. 6).

**VI. Grounds of Rejection to be Reviewed (37 C.F.R. §41.37(c)(1)(vi))**

- A.** Whether claims 1-4, 6, and 8 are unpatentable under 35 U.S.C. §112, second paragraph.
- B.** Whether claims 1, 9, 11-14, 17-19, 27, and 29 are anticipated under 35 U.S.C. §102(e) by Cheng *et al.* (US 2003/0210106).
- C.** Whether claim 6 is unpatentable under 35 U.S.C. 103(a) over Cheng *et al.* in view of Kaite *et al.* (US 6,016,046).
- D.** Whether claim 2 is unpatentable under 35 U.S.C. 103(a) over Cheng *et al.* in view of Kaite *et al.*, further in view of Ishii *et al.* (US 5,070,293).
- E.** Whether claim 3 is unpatentable under 35 U.S.C. 103(a) over Cheng *et al.* in view of Kaite *et al.*, further in view of Burton *et al.* (US 6,917,182).
- F.** Whether claims 4, 8, and 26 are unpatentable under 35 U.S.C. 103(a) over Cheng *et al.* in view of Kaite *et al.*, further in view of Kodama (US 5,805,998).
- G.** Whether claim 10 is unpatentable under 35 U.S.C. 103(a) over Cheng *et al.* in view of Goto (US 5,560,225).
- H.** Whether claims 15, 16, and 22 are unpatentable under 35 U.S.C. 103(a) over Cheng *et al.* in view of Lew *et al.* (US 6,608,464).
- I.** Whether claim 20 is unpatentable under 35 U.S.C. 103(a) over Cheng *et al.* in view of Fernandez *et al.* (US 6,184,651).
- J.** Whether claims 21 and 23 are unpatentable under 35 U.S.C. 103(a) over

Cheng *et al.* in view of Kaite *et al.*

**K.** Whether claim 25 is unpatentable under 35 U.S.C. 103(a) over Cheng *et al.* in view of Lappi *et al.* (US 6,114,832).

**L.** Whether claim 28 is unpatentable under 35 U.S.C. 103(a) over Cheng *et al.* in view of Lappi *et al.*, further in view of Utsunomiya *et al.* (US 6,327,127).

**VII. Argument (37 C.F.R. §41.37(c)(1)(vii))**

**A. Rejection of 1-4, 6, and 8 Under 35 U.S.C. §112, second paragraph**

Claims 1-4, 6 and 8 stand rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. Appellants' representative respectfully requests reversal of this rejection for at least the following reasons. The subject claims as recited overcome the stated grounds of rejection.

In connection with the claims as finally rejected, the Examiner rejected the claims as indefinite, stating that the previously claimed "portable unit" lacked antecedent basis, since it was not clear whether this was the same element as "the portable computing device." In the Reply to Final Office Action dated February 24, 2006, the claims had been amended to overcome the rejection. In the Advisory Action dated May 16, 2006, the Examiner indicated that the amendment had been entered, but that the claims would be rejected as in the Final Rejection. It is respectfully submitted that the rejection of claims 1-4, 6 and 8 has in fact been overcome by the entered amendment. Accordingly, this rejection should be reversed.

**B. Rejection of Claims 1, 9, 11-14, 17-19, 27 and 29 Under 35 U.S.C. §102(e)**

Claims 1, 9, 11-14, 17-19, 27 and 29 stand rejected under 35 U.S.C. §102(e) as being anticipated by Cheng *et al.* (U.S. 2003/0210106). Appellants' representative respectfully requests that this rejection be reversed for at least the

following reasons. Cheng *et al.* fails to teach or suggest each and every aspect of the subject claims.

A single prior art reference anticipates a patent claim only if it expressly or inherently describes ***each and every limitation set forth in the patent claim***. *Trintec Industries, Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 63 USPQ2d 1597 (Fed. Cir. 2002); *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The ***identical invention must be shown in as complete detail as is contained in the ... claim***. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989) (emphasis added).

***i. Claims 1 and 19 (and corresponding dependent claims)***

Appellants' subject application relates generally to a charging system for energy storage components of portable units. More specifically, independent claims 1 and 19 recite similar limitations, namely ***a controller that determines a first charging time for a portable computing device and allocates a second charging time to the portable computing device***. Cheng *et al.* is silent with regard to such novel features.

Cheng *et al.* relates to a system and method for transferring power to devices in a contact-less fashion. The Examiner incorrectly contends that Cheng *et al.* discloses a controller that determines a first charging time and allocates a second charging time for a portable computing device, citing paragraphs [0081] and [0163]. However, in paragraph [0081], Cheng *et al.* discloses a control unit that functions to maintain the resonance of the circuitry of the primary unit and the orientation of coils within the primary unit used to generate current. Paragraph [0163] simply discloses a pair of coils such that a second current generates a current perpendicular to the first coil. The Examiner is mistaken in contending that Cheng *et al.*'s control unit controls the charging time of secondary devices within the system. This control unit, and the current-sensing components contained therein, detects the current draw from secondary devices so that the "desired effect" of charging secondary devices can be performed if they are present. (*See e.g.*, paragraph [0209]). The control unit simply determines whether additional components (*e.g.*, capacitors) need to be added to the circuitry to maintain a level of resonance

because of the presence of one or more secondary devices. However, this disclosure fails to show either *determining* or *allocating charging times* since the system of Cheng *et al.* is simply modifying the behavior of the primary charger device to accommodate secondary devices.

Moreover, the Examiner is incorrect in asserting that driving each coil for different periods of time equates to charging devices at different times. The cited document discloses that one or two coils may be used to increase the active area of the coils, which allows the secondary device to charge while placed in different orientations. (*See e.g.*, paragraph [0214]). The cited document further discloses that activating different coils at different times simply changes the active area so that secondary devices can receive a charge from the primary device regardless of their orientation (*See e.g.*, paragraphs [0160]-[0163]). Thus, it is clear that the system disclosed by Cheng *et al.* does not *determine* or *allocate charging times*, but rather enables the charger device to be more flexible with respect to the orientation of the secondary devices. In view of the above, it is readily apparent that the reference is silent with regard to ***a controller that determines a first charging time for the portable computing device and allocates a second charging time to the portable computing device***, as claimed. Accordingly, this rejection should be reversed.

***ii. Claims 9 and 29 (and corresponding dependent claims)***

Independent claims 9 and 29 recite similar limitations, namely ***allocating a charge time to charge a rechargeable power supply of the portable unit***. Cheng *et al.* is silent with regard to such novel aspects of the claimed invention.

As shown above, Cheng *et al.* does not disclose a system that *allocates charge times* to individual devices that require charging. Rather, Cheng *et al.* discloses that secondary devices may be placed upon the primary charger device to begin charging (*See, e.g.*, paragraph [0088]). The cited document makes no mention of the charger system ***allocating charge times*** to secondary devices for charging, as the system charges secondary devices whenever they are within the active area and aligned properly so that the charger can induce a current in the secondary device (*See e.g.*, paragraph [0039]). Thus, the cited document discloses a system that charges a secondary device provided

that it is in proximity to the charger. However, the claimed subject matter provides for ***allocating charge times*** to portable units that need charging such that each device receives a different charge time. Therefore, it is readily apparent that Cheng *et al.* is silent with regard to ***allocating a charge time to charge a rechargeable power supply of the portable unit.***

In view of at least the foregoing, it is evident that Cheng *et al.* does not teach or suggest each and every aspect of independent claims 1, 9, 19, and 29 (and claims which depend there from). Therefore, it is respectfully requested that this rejection be reversed.

**C. Rejection of Claim 6 Under 35 U.S.C. §103(a)**

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Cheng *et al.* in view of Kaite *et al.* (U.S. 6,016,046). Reversal of this rejection is requested for at least the following reasons. Claim 6 depends from independent claim 1. As discussed *supra*, Cheng *et al.* does not teach or suggest all limitations of claim 1. In addition, Kaite *et al.* relates to a battery pack containing rechargeable batteries and a charger device associated therewith. However, Kaite *et al.* does not make up for the aforementioned deficiencies of Cheng *et al.* Therefore, this rejection should be reversed.

**D. Rejection of Claim 2 Under 35 U.S.C. §103(a)**

Claim 2 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Cheng *et al.* in view of Kaite *et al.*, further in view of Ishii *et al.* (U.S. 5,070,293). It is respectfully requested that this rejection be reversed for at least the following reasons. As discussed *supra*, Cheng *et al.* does not teach or suggest each and every aspect of independent claim 1 (and therefore claim 2, which depends there from), and Kaite *et al.* fails to make up for the deficiencies of Cheng *et al.* Ishii *et al.* relates to a device that transmits electrical energy from one coil to another coil using an inductive coupling. However, Ishii *et al.* does not make up for the deficiencies of Cheng *et al.* and Kaite *et al.* Based on at least the foregoing, this rejection should be reversed.

**E. Rejection of Claim 3 Under 35 U.S.C. §103(a)**

Claim 3 stands rejected under 35 U.S.C. §103(a) as being unpatentable



over Cheng *et al.* in view of Kaite *et al.*, further in view of Burton *et al.* (U.S. 6,917,182). This rejection should be reversed for at least the following reasons. Cheng *et al.* does not teach or suggest all limitations of independent claim 1 (and claim 3 that depends there from), and Kaite *et al.* and Burton *et al.* fail to make up for these deficiencies. As discussed *supra*, Kaite *et al.* does not cure the deficiencies of Cheng *et al.* Furthermore, Burton *et al.* relates to a charging system that controls the charging of a device by varying the current supplied to the inductive coils of the charging system. As such, the reference does not make up for the deficiencies of the base combination. Therefore, this rejection should be reversed.

**F. Rejection of Claims 4, 8 and 26 Under 35 U.S.C. §103(a)**

Claims 4, 8 and 26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Cheng *et al.* in view of Kaite *et al.*, further in view of Kodama (U.S. 5,805,998). It is respectfully requested that this rejection be reversed for at least the following reasons. Cheng *et al.* does not teach or suggest each and every aspect of independent claims 1 and 19 (and claims 4, 8, and 26, which respectively depend there from), and Kaite *et al.* and Kodama fail to compensate for such deficiencies. As discussed previously, Kaite *et al.* does not cure the deficiencies of Cheng *et al.*, and Kodama relates to a cordless telephone system and amplifying a voice signal transmitted between a telephone line and radio transceiver. As such, Kodama does not cure the deficiencies of Cheng *et al.* and Kaite *et al.* Therefore, this rejection should be reversed and the subject claims allowed.

**G. Rejection of Claim 10 Under 35 U.S.C. §103(a)**

Claim 10 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Cheng *et al.* in view of Goto (U.S. 5,600,225). This rejection should be reversed for at least the following reasons. As discussed *supra*, Cheng *et al.* does not teach or suggest each and every aspect of independent claim 9 (and claim 10, which depends there from), and Goto fails to make up for the aforementioned deficiencies. Goto relates to recharging a battery without directly contacting the battery and generating a halting signal to halt the supply of AC power to a primary coil of the system. However, Goto does not make up

for the aforementioned deficiencies of Cheng *et al.* Accordingly, this rejection should be reversed.

**H. Rejection of Claims 15, 16 and 22 Under 35 U.S.C. §103(a)**

Claims 15, 16 and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Cheng *et al.* in view of Lew *et al.* (U.S. 6,608,464). This rejection should be reversed for at least the following reasons. Cheng *et al.* does not teach or suggest all limitations of independent claims 9 and 19 (and claims 15, 16, and 22, which depend there from, respectively). Lew *et al.* relates to solar cells laminated onto a substrate that functions as a power source. However, Lew *et al.* does not make up for the deficiencies of Cheng *et al.* Therefore, this rejection should also be reversed.

**I. Rejection of Claim 20 Under 35 U.S.C. §103(a)**

Claim 20 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Cheng *et al.* in view of Fernandez *et al.* (U.S. 6,184,651). It is respectfully requested that this rejection be reversed for at least the following reasons. As discussed *supra*, Cheng *et al.* does not teach or suggest each and every aspect of independent claim 19 (and claim 20, which depends there from). Fernandez *et al.* relates to a contactless charging system with a controller having a wireless communication link. However, Fernandez *et al.* does not make up for the aforementioned deficiencies. This rejection should therefore be reversed.

**J. Rejection of Claims 21 and 23 Under 35 U.S.C. §103(a)**

Claims 21 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Cheng *et al.* in view of Kaite *et al.* This rejection should be reversed for at least the following reasons. Cheng *et al.* does not teach each and every aspect of independent claim 19 (and thus claims 21 and 23, which depend there from), and Kaite *et al.* does not make up for such deficiencies. As discussed *supra*, Kaite *et al.* relates to a charger device that charges a battery pack of rechargeable batteries without physically contacting the battery pack. The reference therefore does not make up for the deficiencies of Cheng *et al.* Thus, this rejection should also be reversed.

**K. Rejection of Claim 25 Under 35 U.S.C. §103(a)**

Claim 25 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Cheng *et al.* in view of Lappi *et al.* (U.S. 6,114,832). It is respectfully requested that this rejection be reversed for at least the following reasons. Cheng *et al.* does not teach or suggest all the limitations of independent claim 19 (and therefore claim 25, which depends there from), and Lappi *et al.* fails to make up for these deficiencies. Lappi *et al.* relates to a charging system for a heart rate measurement system. However, Lappi *et al.* does not resolve the deficiencies of Cheng *et al.* Accordingly, this rejection should be reversed.

**L. Rejection of Claim 28 Under 35 U.S.C. §103(a)**

Claim 28 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Cheng *et al.* in view of Lappi *et al.* as applied to claim 25 above and in further view of Utsunomiya *et al.* (U.S. 6,327,127). This rejection should be reversed for at least the following reasons. Cheng *et al.* does not teach or suggest each and every aspect of independent claim 19 (and therefore claim 28, which depends there from), and Lappi *et al.* and Utsunomiya *et al.* do not make up for the deficiencies of Cheng *et al.* As discussed *supra*, Cheng *et al.* and Lappi *et al.* do not teach or suggest all aspects of the subject claims, and Utsunomiya *et al.*, which relates to maintaining a specified voltage level, does not compensate for the aforementioned deficiencies. Therefore, this rejection should also be reversed.

**M. Conclusion**

For at least the above reasons, the claims currently under consideration are believed to be patentable over the cited references. Accordingly, it is respectfully requested that the rejections of claims 1-4, 6, 8-23, 25-29 be reversed.

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Respectfully submitted,  
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**VIII. Claims Appendix (37 C.F.R. §41.37(c)(1)(viii))**

1. A portable computing device, comprising:
  - a component that receives an electro-magnetic flux generated from an external source;
  - a charging component that generates a charging current from the flux, and charges a rechargeable power supply; and
  - a controller that determines a first charging time for the portable computing device and allocates a second charging time to the portable computing device.
2. The portable computing device of claim 1 further comprising a bar code scanner.
3. The portable computing device of claim 1 further comprising an artificial intelligence (AI) component that infers and/or determines when the power supply should be recharged.
4. The portable computing device of claim 3 further comprising a notification component that notifies a user of the device that the device should be exposed to the external flux source.
6. The portable computing device of claim 1, the rechargeable power source being at least one of a fuel cell, a capacitor, a super capacitor, and a rechargeable battery cell.
8. The portable computing device of claim 1, further comprising a notification component that alerts a user of power status of the rechargeable power supply.
9. A method of charging a portable unit comprising:
  - allocating a charge time to charge a rechargeable power supply of the portable unit;
  - providing at least one primary induction assembly with a primary winding configured to create a magnetic flux;

providing a second pick up induction assembly coupled to the rechargeable power supply of the portable unit, the magnetic flux extendable in to the second pick up induction assembly; and

opportunistically recharging the power supply based at least in part on the charge time *via* a current created in the second induction assembly from the magnetic flux.

10. The method of claim 9, further comprising opportunistically recharging the power supply without deactivating the portable unit.

11. The method of claim 9, further comprising recharging the power supply when the magnetic flux extends in to the second pick up assembly.

12. The method of claim 9, further comprising controlling at least one of the primary induction and the secondary induction assembly.

13. The method of claim 12, further comprising triggering an event to energize the primary winding.

14. The method of claim 13, the triggering further comprising varying a light feature.

15. The method of claim 13, the triggering further comprising moving a user's body part in a predetermined manner.

16. The method of claim 9, further comprising charging the rechargeable power supply *via* a scavenging method employing at least one of a user's body heat, user's foot pressure, and solar energy.

17. The method of claim 9, further comprising aligning the second induction assembly in close spatial proximity to the first induction assembly.

18. The method of claim 9 further comprising:

carrying the first induction assembly by a member of a group; and  
approaching the member when an opportunistic recharge is required for portable units of other members.

19. A charging system for a portable unit comprising:
  - a controller that determines a charging time for a rechargeable power source of the portable unit and allocates a partial charge time to the rechargeable power source;
  - a primary induction assembly with a primary coil coupled to a primary power source; and
  - a secondary induction assembly with a secondary coil coupled to a rechargeable power source of the portable unit; the magnetic flux of the first primary induction assembly extendable to the secondary induction assembly so as to provide the rechargeable power source a charging current that is inductively created *via* the magnetic flux during an opportunistic charging of the portable unit.
20. The charging system of claim 19, the controller in wireless communication with the portable unit further monitors a state of charge of the rechargeable power source.
21. The charging system of claim 20, the controller comprising a sensor.
22. The charging system of claim 21, the sensor is at least one of a motion and a light sensor.
23. The charger system of claim 19, the rechargeable power source is at least one of a fuel cell, a capacitor, a super capacitor, and a rechargeable battery cell.
25. The charger system of claim 19, at least one of the portable unit and the charger system is wearable around a user's body.
26. The charger system of claim 20, further comprising a notifying system that alerts a user of a power status of the rechargeable power supply.

27. The charger system of claim 20, the primary induction assembly is part of a flat pad.
28. The charger system of claim 25, further comprising a thermo-coupler connected to a user's body for additionally recharging at least one of the primary power source and the rechargeable power source.
29. A charger system comprising:  
means for allocating disparate charge times to at least two portable units;  
means for creating a magnetic flux; and  
means for receiving a magnetic flux, the receiving means operatively connected to a rechargeable power source of each of the at least two portable units so as to create an electric current during an opportunistic charge of the at least two portable units.

**IX. Evidence Appendix (37 C.F.R. §41.37(c)(1)(ix))**

None.

**X. Related Proceedings Appendix (37 C.F.R. §41.37(c)(1)(x))**

None.